

## **2. Remarks/Discussion of Issues:**

### ***Claim Summary***

Claims 1-3 and 5-12 are pending in the application. Claims 1-3 and 5-11 have been amended to address informalities in the claim language and to more clearly recite the claimed subject matter.

Applicants respectfully submit that all pending claims are in condition for allowance.

### ***Allowable Claim***

Applicants note with appreciation that the Examiner has allowed 12.

### ***35 U.S.C. § 112, First Paragraph - Claims 1, 2, 3 and 5***

The Office Action of August 11, 2008, rejects claims 1, 2, 3 and 5 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. *See* Office Action, p. 2. In particular, the Examiner asserts that the specification does not enable one skilled in the art to utilize the claimed combination of (1) the frequency analysis, (2) the complementary characteristic, and (3) the correction characteristic to correct impairments, recited in claim 1.

Applicants respectfully traverse the rejection, noting that page 8, lines 10-25, provide enabling description of claim 1. For example, step 2 provides characterizing each filter element in the frequency domain, and determining an appropriate compensation in that domain which would satisfactorily correct the filter impairment. Further, Applicants have amended claim 1 to more clearly recite the claimed subject matter, and thus submit that the rejection is moot.

Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1, 2, 3 and 5 under 35 U.S.C. § 112, first paragraph.

### ***35 U.S.C. § 103 Rejections - Claims 6-11***

The Office Action of August 11, 2008, rejects claims 6-11 under 35 U.S.C. §

102(e) as being anticipated by IWAMATSU (U.S. Patent No. 6,175,591). Applicants respectfully traverse the rejection because IWAMATSU does not disclose each and every element of the claims.

Applicants rely at least on the following standards with regard to proper rejections under 35 U.S.C. § 102. Notably, anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990); *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

Applicants' silence on certain aspects of the rejection is by no means a concession as to their propriety. Rather, because the applied art fails to disclose at least one feature of the claims, for at least the reasons discussed below, Applicants respectfully submit that the rejections are improper and should be withdrawn.

#### Claim 6

Independent claim 6 recites, in part:

“ ... a first signal path, characterized by a first impulse response, having an input coupled to the I input port and a first output; a second signal path, characterized by a second impulse response, having an input coupled to the Q input port and a second output; a third signal path, characterized by a third impulse response, having an input coupled to the I input port and a third output; a fourth signal path, characterized by a fourth impulse response, having an input coupled to the Q input port and a fourth output; a first adder for adding said first and second outputs and for coupling the sum thereof to

*said I output; and a second adder for adding said third and fourth outputs and for coupling the sum thereof to said Q output, wherein said first, second, third and fourth impulse responses provide frequency compensation for impairments imposed by a plurality of defective elements among the plurality of receiver elements.”*

IWAMATSU does not disclose at least these features. As in the previous office Action, mailed September 22, 2004, the Examiner asserts that a first signal path characterized by a first impulse response is taught by FIR filter 25a-1, a second signal path characterized by a second impulse response is taught by FIR filter 25b-1, a third signal path characterized by a third impulse response is taught by FIR filter 25a-2, and a fourth signal path characterized by a fourth impulse response is taught by FIR filter 25b-2. *See* Office Action, pp. 3-4 (citing FIG. 4). The Examiner also asserts that the first and second adders are taught by subtractors shown in FIG. 4 and discussed with reference to subtractors 25c and 25d in FIG. 20. *See* Office Action, p. 2. However, the top subtractor (outputting Ich OUTPUT) in FIG. 4 does not add the first and second outputs (corresponding to first and second signal paths), identified by the Examiner as FIR filter 25a-1 and FIR filter 25b-1, which are output to different subtractors for different subtraction operations. Likewise, the bottom subtractor (outputting Qch OUTPUT) does not add the third and fourth outputs (corresponding to third and fourth signal paths), identified by the Examiner as FIR filter 25a-2 and FIR filter 25b-2, which are output to different subtractors for different subtraction operations.

Further, claim 6 has been amended, in part, to recite that first, second, third and fourth impulse responses compensate for impairments imposed by multiple defective receiver elements. IWAMATSU does not disclose that the FIR filters 25a-1, 25b-1, 25a-2 and 25b-2 (asserted disclosing the first, second, third and fourth impulse responses) compensate for such impairments imposed by multiple defective elements.

Accordingly, because IWAMATSU does not disclose each and every claim recitation, the rejection of claim 6 under 35 U.S.C. § 102(e) should be withdrawn.

Claims 7-11

With regard to claims 7-11, Applicants assert that they are allowable at least because they depend, directly or indirectly, from independent claim 6, which Applicants submit has been shown to be allowable, and in view of their additional recitations.

***35 U.S.C. § 103 Rejections - Claims 1 and 5***

The Office Action of August 11, 2008, rejects claims 1 and 5 under 35 U.S.C. § 103(a) as being unpatentable over IWAMATSU et al. in view of SEIKE et al. (U.S. Patent No. 6,112,067). Applicants respectfully traverse the rejection for at least the reasons set forth herein.

Applicants rely on at least on the following standards with regard to proper rejections under 35 U.S.C. § 103(a). As stated in MPEP § 2143, in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

More particularly, in order to establish obviousness by combining or modifying the teachings of the prior art to produce the claimed invention, there must be some teaching, suggestion or motivation to do so. *See* MPEP § 2143.01(I) (*citing In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006)). “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art.” MPEP § 2143.01(III) (*citing KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007)).

Applicants’ silence on certain aspects of the rejection is by no means a concession as to their propriety. Rather, because the applied art fails to disclose at least one feature of the claims, for at least the reasons discussed below, Applicants respectfully submit that the rejections are improper and should be withdrawn.

Claim 1

Independent claim 1 recites, in part:

*“... identifying the defective elements imposing impairments on the information and characterizing each defect by performing a frequency analysis of each defective element; determining a frequency characteristic complementary to said frequency analysis, such that a combination of said frequency analysis and said complementary frequency characteristic, when applied to information passing through said element, corrects the impairment imposed by said element; and creating a composite, two channel I and Q finite impulse response filter, having I-I and Q-Q direct components and I-Q and Q-I cross components, by combining said complementary frequency characteristics, said filter being positioned in said information transmission system for correcting said impairments imposed on the information by said defective elements.”*

No proper combination of IWAMATSU and SEIKE et al. teaches or suggests at least these claim features. The Office Action acknowledges that IWAMATSU does not disclose (1) identifying defective elements and characterizing the defect of each, including performing a frequency analysis of each element and (2) creating a frequency characteristic complementary to said frequency analysis, and therefore relied on SIEKE et al. in combination with IWAMATSU to teach the same. *See* Office Action, p. 6. In particular, the Office Action asserts that the Frequency Generation Portion of Table Data Generation Program 122 teaches identifying defective elements and characterizing the defects, and that the Correction Value Generation Portion of the Table Data Generation Program 122 teaches creating a frequency characteristic complementary to the frequency analysis. *See* Office Action, p. 6 (citing FIG. 11).

However, SIEKE et al. provides no explanation of the functionality of either the Frequency Generation Portion or the Correction Value Generation Portion of the Table Data Generation Program 122. Therefore, it is conjecture that these elements disclose the features of claim 1. For example, there is no discussion in SIEKE et al. that the Frequency Generation Portion actually identifies defective elements, or that it performs a

frequency analysis of each. In fact, the Office Action appears to specifically exclude “including performing a frequency analysis of each element” from the alleged teachings of the Frequency Generation Portion. *See* Office Action, p. 6.

Accordingly, neither IWAMATSU nor SEIKE et al., either alone or in any proper combination, teaches or suggests all claim elements. Therefore, the rejection of claim 1 under 35 U.S.C. § 103(a) should be withdrawn.

#### Claim 5

With regard to claim 5, Applicants assert that it is allowable at least because it depends from independent claim 1, which Applicants submit has been shown to be allowable, and in view of its additional recitations.

#### ***35 U.S.C. § 103 Rejections - Claims 2 and 3***

The Office Action of August 11, 2008, rejects claims 2 and 3 under 35 U.S.C. § 103(a) as being unpatentable over IWAMATSU et al. in view of SEIKE et al. and ABE (U.S. Patent No.5,857.004). Applicants respectfully traverse the rejection for at least the reasons set forth herein.

The Examiner relies on ABE only to teach I and Q data and processing channels, two-channel up-converting modulator, and IF filter. *See* Office Action, pp. 7-8. ABE therefore does not cure the deficiencies of IWAMATSU and SEIKE et al., discussed above with respect to independent claim 1. Accordingly, Applicants respectfully submit that claims 2 and 3 are allowable at least because they depend from independent claim 1, which Applicants submit has been shown to be allowable, as well as for reasons related to their additional recitations.

#### **Conclusion**

In view the foregoing, Applicants respectfully request that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application in condition for allowance.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:

Agilent Technologies, Inc.

/Van C. Ernest/

by: Van C. Ernest  
Reg. No. 44,099

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Volentine & Whitt, P.L.L.C.  
One Freedom Square  
11951 Freedom Drive, Suite 1260  
Reston, VA 20190  
Tel. No. 571-283-0720  
Fax No. 571-283-0740